

Serial No.: 10/810,427
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Title: MACHINE STATOR FABRICATION METHOD
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Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (original) A method for fabricating a machine stator (110) comprising:
 - (a) positioning pre-wound stator windings (120) around respective teeth (18) of a laminated stator yoke (112); and
 - (b) directly molding composite tooth tips (24) into contact with respective teeth of the laminated stator yoke.
2. (original) The method of claim 1 further comprising, prior to positioning, annealing the laminated stator yoke.
3. (original) The method of claim 1 wherein positioning comprises radially sliding the pre-wound stator windings over the respective teeth.
4. (original) The method of claim 1 wherein the stator teeth include respective key notches (42).
5. (original) The method of claim 1 further comprising, prior to directly molding, providing insulation (144) around at least portions of the windings.
6. (original) The method of claim 5 wherein the insulation comprises slot liners.
7. (original) The method of claim 1 wherein directly molding comprises injection molding the composite tooth tips.
8. (original) The method of claim 1 wherein positioning comprises compressing the pre-wound stator windings around the respective teeth.

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9. (original) The method of claim 8 further comprising, prior to positioning, situating the pre-wound stator windings on a mandrel in a pattern aligned with gaps between the stator teeth.

10. (original) The method of claim 8 wherein compressing is performed prior to directly molding.

11. (original) The method of claim 1 wherein directly molding comprises compression molding the composite tooth tips.

12. (currently amended) The method of claim 11 further comprising, prior to positioning, winding the stator windings in a winding shape selected to facilitate fabrication of a desired tooth tip shape during molding.

13. (currently amended) The method of claim 12 wherein positioning comprises compressing the pre-wound stator windings around the respective teeth, and wherein compressing the pre-wound stator windings and compression molding occur substantially simultaneously.

14. (original) The method of claim 13 further comprising, prior to positioning, situating the pre-wound stator windings on a hollow mandrel in a pattern aligned with gaps between the stator teeth.

15. (original) The method of claim 14 wherein compression molding comprises providing coated magnetic particles between the mandrel and respective teeth and windings and compressing the space between the mandrel and the laminated stator yoke.

16-24. (canceled)

25. (withdrawn) A method for fabricating a machine stator (110) comprising:

(a) positioning pre-wound stator windings (21) around respective stator teeth (618); and then

(b) coupling the stator teeth and a stator yoke (612), wherein the stator yoke radially surrounds the stator teeth.

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26. (withdrawn) The method of claim 25 further comprising, prior to (a), providing the pre-wound stator windings by winding each stator winding to have a wider winding portion (23) and a narrower winding portion (123),

wherein the stator teeth comprise tooth tips,

and wherein (a) comprises positioning the narrower winding portion closer to the tooth tips than the wider winding portion.

27. (withdrawn) The method of claim 26 wherein providing the pre-wound stator windings further comprises, flat winding the pre-wound stator windings.

28. (withdrawn) The method of claim 25 wherein the stator teeth are laminated stator teeth, composite stator teeth, or combinations thereof.

29. (withdrawn) The method of claim 28 wherein the stator teeth comprise an integral tooth body (619).

30. (withdrawn) The method of claim 28 wherein the stator teeth comprise discrete teeth and further including providing tooth connectors (617) between the stator teeth.

31. (withdrawn) The method of claim 25 wherein the stator yoke is a laminated stator yoke or a composite stator yoke.

32. (withdrawn) The method of claim 25 wherein (b) comprises shrink-fitting the stator yoke and the stator teeth.

33. (withdrawn) The method of claim 25 wherein the stator teeth comprise material having a radially oriented grain, and wherein the stator yoke comprises material having an azimuthally oriented grain.

34-44. (canceled)